Remarks:

The above amendments and these remarks are responsive to the Office action dated May 8, 2006. Claims 56-62 and 64-69 are pending in the application. In the Office action, the Examiner rejected claims 56-60, 65, and 67-69 as being unpatentable over U.S. Patent No. 5,734,401 to Clark et al. ("Clark et al.") in view of U.S. Patent No. 6,0594,401 to Wu et al. ("Wu et al.") and U.S. Patent No. 5,801,737 to Sato et al. ("Sato et al.") under 35 U.S.C. § 103(a). Further, the Examiner rejected claim 61 as being unpatentable over Clark et al. in view of Wu et al. and Sato et al. and further in view of U.S. Patent No. 6,113,228 to Pawlowski, Jr. et al. ("Pawlowski, Jr. et al.") under 35 U.S.C. § 103(a). Finally, the Examiner rejected claims 64 and 66 as being unpatentable over Clark et al. in view of Wu et al. and Sato et al. and with a further conclusion that features not disclosed in the references are within the ordinary skill in the art. In view of the remarks below, applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

Claims 56-60, 65, and 67-69

The Examiner's initial burden to establish a *prima facie* case that claims 56-62 and 64-69 are obvious has not been met. The burden has not been met at least because combining the references as proposed does not disclose each element recited in the claims. Presented below are certain features that are recited in the claims, but that are not disclosed in the cited references.

Claim 56 recites:

> An off-axis printing-fluid container configured to hold a volume of printing fluid, comprising:
> a front face including a top edge, a bottom edge, a right edge, and a left edge;
> a body including a latching surface spaced rearward the front face, wherein the front face and the body are exterior an inner cavity;
> an air interface passing into the inner cavity through the front face proximate the top edge and distal the bottom edge;
> a printing-fluid interface passing into the inner cavity through the front face proximate the bottom edge and distal the top edge;
> a first recessed portion of the front face intermediate the air interface and the printing-fluid interface and proximate the air interface; and
> a second recessed portion of the front face intermediate the air interface and the printing-fluid interface and proximate the printing-fluid interface, and wherein the first recessed portion and the second recessed portion extend into the inner cavity.

An off-axis printing-fluid container.

Combining the cited references fails to disclose an off-axis printing container as recited in claim 56. Off-axis containers are distinguished from on-axis containers by where they are mounted on a printing device. An on-axis container is mounted on a carriage and moves in conjunction with a print head. In contrast, an off-axis container mounts on the printer in stationary fashion and is in fluid communication with the moving print head, such as by a flexible tube. The Examiner acknowledges that Clark et al. does not disclose an off-axis printing-fluid container, but cites Wu et al. for disclosure of this feature. However, neither Wu et al. or Sato et al. discloses an off-axis printing-fluid container.

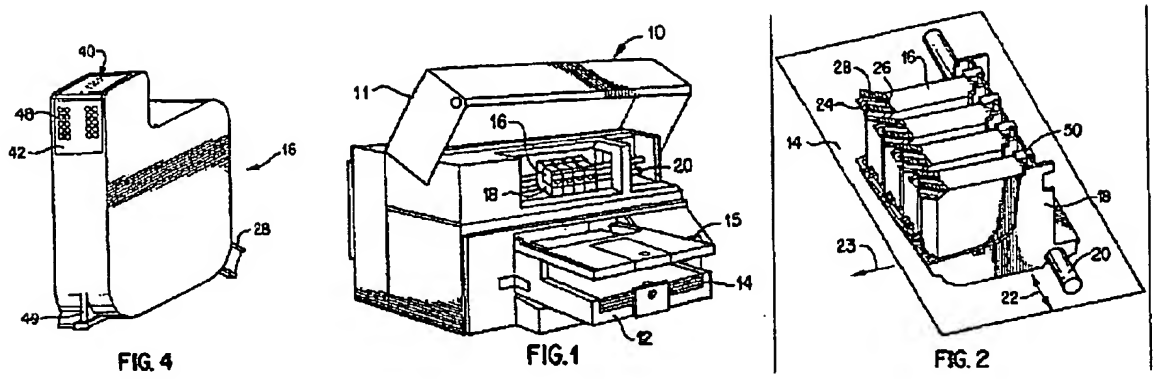


FIG. 4 FIG.1 FIG. 2

As shown in the figures above, Wu et al. discloses an on-axis print cartridge whereas claim 56 recites an off-axis printing-fluid container. Indeed, Wu et al. states that "print cartridges 16 are mounted in a scanning carriage 18, [which] is slidably mounted on a rod 20." (Col. 3, ln. 41-2 & 49). Thus, Wu et al. does not disclose an off-axis printing-fluid container as recited in claim 1.

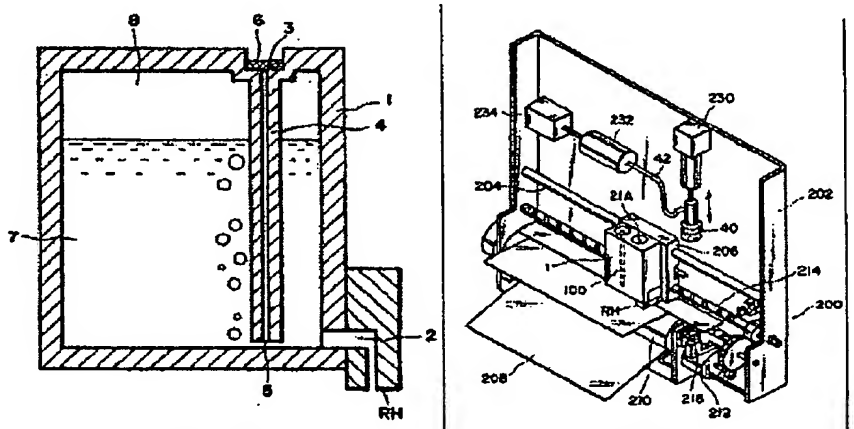


FIG. 6 FIG. 25

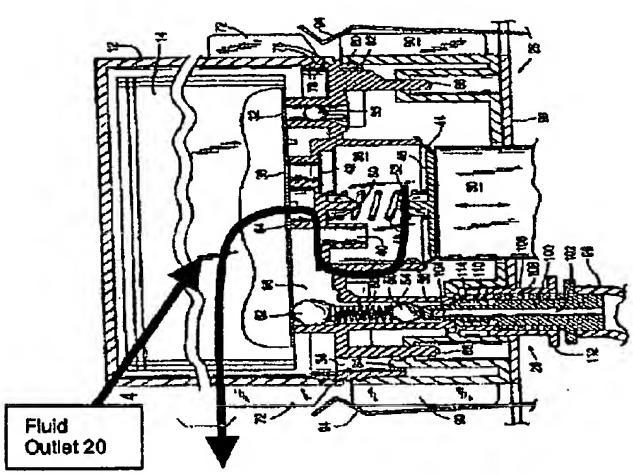
Similarly, as shown in the figures above, Sato et al. discloses an on-axis cartridge in contrast to the off-axis printing-fluid container recited in claim 56. The Examiner cites Fig. 6, which shows an ink container 1 rigidly connected to recording head RH. Recording head RH applies the ink from ink container 1 to accomplish the

printing. Further, Fig. 26 shows ink container 1 coupled to recording head RH mounted on "carriage 206 which is reciprocally guided by a guide rod 204...." (Col. 16, ln 64). Thus, the Sato et al. ink container is configured for on-axis operation in contrast to the off-axis printing-fluid container recited in claim 56.

Accordingly, the cited references fail to disclose an on-axis printing-fluid container as recited in claim 56.

A first recessed portion of the front face extending into an inner cavity.

Combining the cited references does not disclose an off-axis printing-fluid container comprising a first recessed portion of the front face extending into an inner cavity and intermediate the air interface and the printing-fluid interface. The Examiner asserts that ink outlet port 20 of Clarke et al. (shown below) is a first recess, but acknowledges that ink outlet port 20 does not extend into an inner cavity. To allegedly show a first recess extending into an inner cavity, the Examiner cites elements 4, 5, and 6 of Sato et al. (shown below). However, elements 4, 5, and 6 of Sato et al. define an air inlet port instead of a first recess and the proposed combination would detrimentally change the Clarke et al. principal of operation.



Clark et al. Fig. 4

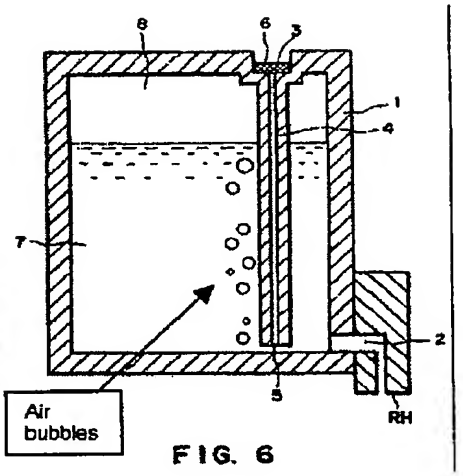


FIG. 6

Sato et al. Fig. 6

1. Modifying Clark et al. to incorporate the Sato et al. air inlet port is improper because Clark et al. would become unsuitable for its intended operation.

Clark et al. operates by creating a pressure gradient that directs the flow of ink along an intended path. The path the ink follows through the Clark et al. cartridge is shown by the curved arrow added to Fig. 4 above. First, ink is drawn from reservoir 14 through ink inlet 38 by increasing the volume of pumping chamber 36. A one-way flapper valve 42 prevents ink from returning to reservoir 14 when the ink is pumped out of pumping chamber 36. Instead, ink is pumped out of pumping chamber 36 through ink outlet 40, and thereafter the ink flows out of cartridge 10 through fluid outlet 20.

The Sato air inlet port 4 is a conduit that facilitates the passage of air from outside the cartridge to the ink storage area inside. Air inlet port 4 is open at both its terminal ends, with hole 5 being provided at a distal end inside the container. Allowing air to flow inside the Sato et al. cartridge is a central feature because air is used to maintain a desired pressure inside the cartridge. Pressure management is used to maintain a desired negative pressure at ink supplying portion 2, which facilitates the formation of a meniscus and inhibits ink dripping out of recording head RH.

If the Clark et al. fluid outlet 20 was modified to include the Sato air inlet port 4 as proposed, then the Clark et al. ink supply apparatus would operate ineffectively, if at all. Modifying Clarke et al. in this manner would cause ink to flow back into reservoir 14 instead of it following the intended path illustrated in Fig. 4 above. In fact, the Clark et al. one-way flapper valve 42 is provided for the very purpose of preventing ink backflow into reservoir 14. If Clark et al. was modified as proposed, back flow of ink into reservoir 14 would occur through the Sato et al. air inlet port 4 each time pumping chamber 36 pressurized the ink.

Moreover, the proposed modification would cause ink to drip into fluid outlet 20. The Sato et al. air inlet port 4 would in effect cause a leak in the ink supply apparatus downstream of pumping chamber 36. Ink would leak through the Sato et al. air inlet port 4 into fluid outlet 20. Further, as pumping chamber 36 drew ink from reservoir 14 through ink inlet 38 – the intended path – ink would also be drawn from reservoir 14 through the modified fluid outlet 20 – an unintended path, which would disrupt pumping operation and efficiency.

In addition, modifying Clark et al. as proposed would cause ink to disadvantageously drip from fluid outlet 20. When the unmodified ink supply is mounted in a docking bay, Clark et al. stops ink from dripping out of fluid outlet 20 with the negative pressure generated by pump chamber 36 as it draws in ink from reservoir 14. With the proposed modification, the negative pressure generated by pump chamber 36 would be insufficient to prevent drips out of fluid outlet 20 when compared to the head pressure of ink in reservoir 14. One skilled in the art would appreciate that ink dripping out of the Clark et al. ink supply would be undesirable and as such would not be motivated to make the proposed modification.

Thus, modifying Clark et al. to include the Sato air inlet port as proposed would detrimentally change the Clarke et al. principle of operation and render it unsatisfactory for its intended purpose.

2. The Sato et al. air inlet port 4 merely provides a cumulative example of the Clark et al. air exhaust port 34, not an example of a first recess as distinctly recited in claim 56.

Under the definiteness requirement of 35 U.S.C. § 112 ¶ 2, separately recited elements in a claim are interpreted as separate features. Claim 56 separately defines an air interface and a first recess. As such, it would be improper to assert that two examples of air conduits shown in the art disclose both an air interface and a first recess as they are recited in claim 56. Interpreting claims and the art in this manner would be contrary to the law and contrary to how one skilled in the art would interpret them.

The Examiner cites air exhaust port 34 in Clark et al. as allegedly disclosing a air interface, but cites the Sato et al. air inlet port 4 as allegedly disclosing a first recess. The Clark et al. air exhaust port 34 and the Sato et al. air inlet port 4 both function to allow air to pass into and out of their respective print cartridges. As such, applicants submit that the air conduits shown in Clark et al. and Sato et al. merely show two examples of air conduits, not examples of features distinct from air conduits.

Accordingly, it would be improper to cite the Clark et al. air conduit as disclosing an air interface while asserting that the Sato et al. air conduit discloses a first recess.

For at least these reasons, modifying the references as proposed does not disclose a first recess portion of the front face extending into an inner cavity as recited in claim 56.

A second recess of the front face extending into the inner cavity.

One skilled in the art would not be motivated to modify Clark et al. as proposed to derive the second recess recited in claim 56. Motivation would be lacking because the modification would render the Clark et al. ink supply operationally defective for reasons similar to those presented for the first recess. Namely, the proposed modification would compromise the ability of pumping chamber 36 to pump ink effectively.

Modifying Clark et al. to include the Sato air inlet port 4 would defeat the purpose of the Clark et al. one-way flapper valve 42. The purpose of one-way flapper valve 42 is "to limit the return of ink from chamber 36 to the reservoir 14." (Col. 3, ln 61). Initially, one-way flapper valve 42 opens to allow ink to flow from reservoir 14 to pumping chamber 36 as ink is sucked in by pumping chamber 36. Subsequently, one-way flapper valve 42 closes to prevent ink flow from flowing back into reservoir 14 as ink is pumped out of pumping chamber 36. Because the Sato et al. air inlet port 4 is an open conduit, it would facilitate ink returning to reservoir 14 instead of limiting its return as intended.

Contrary to the intended operation of the Clark et al. ink supply, pumping of ink from pumping chamber 36 would become ineffective with the proposed modification. Modified as proposed, a significant portion of ink in pumping chamber 36 would flow back into reservoir 14 as it was pressurized instead of flowing towards fluid outlet 20 as intended. Flow along the intended path would become diminished and variable as the ink level inside reservoir 14 changed. Accordingly, the proposed modification of Clark et al. would render it unsatisfactory for its intended purpose.

For at least these reasons, Applicants submit that the cited references fail to disclose a second recess as recited in claim 56.

Summary of features recited in claim 56 that are not disclosed in the cited art.

Modifying Clark et al. as proposed fails to disclose features recited in claim 56. For example, the cited references do not disclose an off-axis printing-fluid container, a first recess of the front face extending into the inner cavity, or a second recess of the front face extending into the inner cavity. Accordingly, the cited references do not establish a *prima facie* case that claim 56 is obvious under 35 U.S.C. § 103(a). As such, claims 57-62 and 64-69 depending from claim 56 are likewise not *prima facie* obvious in view of the cited references. Applicants, therefore, request allowance of the pending claims.

In addition to depending from claim 56, claim 58 is allowable because the cited references do not disclose an off-axis printing-fluid container comprising a body having less width than the width of the front face. The Examiner acknowledges that Clark et al. does not disclose this element, but cites Fig. 4 of Wu et al. as allegedly disclosing it. However Wu et al. shows an on-axis print cartridge 16 whereas claim 58 recites an off-axis printing-fluid container. Thus, Wu et al. does not disclose an off-axis printing fluid container, nor does it disclose an off-axis printing-fluid container comprising a body having less width than the width of the front face.

Similarly with regard to claim 69, combining the cited references does not disclose an off-axis printing-fluid container wherein the bottom edge includes a protruding portion extending away from the top edge. The Examiner acknowledges that Clark et al. does not disclose this element, but cites Fig. 4 of Wu et al. as allegedly disclosing it. Because print cartridge 16 of Wu et al. is an on-axis cartridge, this

proposed combination does not disclose the off-axis printing-fluid container recited in claim 69.

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to Examiner L. Martin, Group Art Unit 2853, Assistant Commissioner for Patents, at facsimile number (571) 273-8300 on August 8, 2006.

Christie A. Doolittle

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